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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,679	10/16/2000	Eric Engstrom	51003.P026	3411

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EXAMINER

SOBUTKA, PHILIP

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 11/29/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/690,679

Applicant(s)

ENGSTROM, ERIC

Examiner

Philip J. Sobutka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use, or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Myllymaki (US 5,670,944).

Myllymaki teaches a mobile client device comprising: a plurality of sensors to sense and output blood flow (heart rate) data of a user holding the device (Myllymaki title, col 1, line 5) with the sensors being disposed on a plurality of locations on the device (Myllymaki see fig 1B); and a means coupled to the sensors for inferring a holding pattern (that is, determining which sensors have valid output), and generating a heart rate of the user using a subset of the data output by the sensors, based on the holding pattern, that is compensating for false data from some of the sensors (Myllymaki see especially fig 1, item 9, col 3, lines 3-30).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Myllymaki.

As to claim 18, Myllymaki lacks a teaching of the sensors comprising first and second sets of sensors disposed along first and second edges. It would be appreciated by those skilled in the art at the time the invention was made, that the above difference would depend more upon engineering design considerations than any inventive concept because the overall operation would not be changed by the specific arrangement of the sensors as long as they would be in contact with the user. Therefore, it would have been obvious to one of ordinary skill in the art to modify Myllymaki to have the sensors comprise first and second sets along first and second edges of the device in order to provide an additional layout of the sensors for use in different housing arrangements.

5. Claims 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myllymaki in view of Richter et al (US 4,938,228).

As to claim ¹⁹~~18~~, Myllymaki lacks a teaching of the comparing the received data from the sensors against a reference of sensed data profiles. Richter teaches a heart rate monitor which compares received sensor data against saved sensed data (Richter see especially col 2, lines 32-60). It would have been obvious to one of ordinary skill in the art to modify Myllymaki as taught by Richter in order to improve the accuracy of the determined heart rate.

As to claim ²⁰~~18~~, Myllymaki lacks a teaching of selecting a set of weights to be applied to normalize sensing data received from the sensors. Richter teaches a heart rate monitor which uses selected weights to normalize data from the sensors (Richter

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see especially col 6, line 63 – col 7, line 10, col 12, line 49 – col 13, line 5). It would have been obvious to one of ordinary skill in the art to modify Myllymaki as taught by Righter in order to improve the accuracy of the determined heart rate.

6. Claim 1-3,7,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaukel (US 6,100,806) in view of Myllymaki.

Consider claims 1,7,8. Gaukel teaches a mobile phone incorporating a heart rate sensor (Gaukel fig 1, col 12, lines 12-33). Gaukel lacks a teaching of the specific details of the heart rate monitor. Myllymaki teaches a mobile client device comprising: a plurality of sensors to sense and output blood flow (heart rate) data of a user holding the device (Myllymaki title, col 1, line 5) with the sensors being disposed on a plurality of locations on the device (Myllymaki see fig 1B); and a means coupled to the sensors for inferring a holding pattern (that is, determining which sensors have valid output), and generating a heart rate of the user using a subset of the data output by the sensors, based on the holding pattern, that is compensating for false data from some of the sensors (Myllymaki see especially fig 1, item 9, col 3, lines 3-30). It would have been obvious to one of ordinary skill in the art to modify Gaukel to use the heart rate monitor of Myllymaki in order to compensate for false data from some of the sensors.

As to claims 2,3, Gaukel in view of Myllymaki lacks a teaching of the sensors comprising first and second sets of sensors disposed along first and second edges. It would be appreciated by those skilled in the art at the time the invention was made, that the above difference would depend more upon engineering design considerations than any inventive concept because the overall operation would not be changed by the

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specific arrangement of the sensors as long as they would be in contact with the user.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Gaukel in view of Myllymaki to have the sensors comprise first and second sets along first and second edges of the device in order to provide an additional layout of the sensors for use in different housing arrangements.

7. Claims 4,5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaukel in view of Myllymaki and in view of Righter et al (US 4,938,228).

As to claim 4, Gaukel in view of Myllymaki lacks a teaching of the comparing the received data from the sensors against a reference of sensed data profiles. Righter teaches a heart rate monitor which compares received sensor data against saved sensed data (Righter see especially col 2, lines 32-60). It would have been obvious to one of ordinary skill in the art to modify Gaukel in view of Myllymaki as taught by Righter in order to improve the accuracy of the determined heart rate.

As to claim 5, Gaukel in view of Myllymaki lacks a teaching of selecting a set of weights to be applied to normalize sensing data received from the sensors. Righter teaches a heart rate monitor which uses selected weights to normalize data from the sensors (Righter see especially col 6, line 63 – col 7, line 10, col 12, line 49 – col 13, line 5). It would have been obvious to one of ordinary skill in the art to modify Gaukel in view of Myllymaki as taught by Righter in order to improve the accuracy of the determined heart rate.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gaukel in view of Myllymaki and in view of Matthews (US 4,867,442)

Gaukel in view of Myllymaki lacks a teaching of a calibration mode wherein a user confirms a generated heart rate. Matthews teaches a heart rate monitor with a calibration mode wherein a user confirms a generated heart rate (Matthews see especially col 3, lines 5-10). It would have been obvious to one of ordinary skill in the art to modify Gaukel in view of Myllymaki to add the calibration mode of Matthews in order to improve the accuracy of the determined heart rate.

9. Claims 9-11, 15, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lichter et al (US 5,827,179) in view of Myllymaki.

Consider claims 9, 15, 16. Lichter teaches a PDA including a heart rate monitor (Lichter fig 2, col 6, lines 50-62, col 8, lines 12-14). Lichter lacks a teaching of the specific details of the heart rate monitor. Myllymaki teaches a mobile client device comprising: a plurality of sensors to sense and output blood flow (heart rate) data of a user holding the device (Myllymaki title, col 1, line 5) with the sensors being disposed on a plurality of locations on the device (Myllymaki see fig 1B); and a means coupled to the sensors for inferring a holding pattern (that is, determining which sensors have valid output), and generating a heart rate of the user using a subset of the data output by the sensors, based on the holding pattern, that is compensating for false data from some of the sensors (Myllymaki see especially fig 1, item 9, col 3, lines 3-30). It would have been obvious to one of ordinary skill in the art to modify Lichter to use the heart rate monitor of Myllymaki in order to compensate for false data from some of the sensors.

As to claims 10, 11, Lichter in view of Myllymaki lacks a teaching of the sensors comprising first and second sets of sensors disposed along first and second edges. It

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would be appreciated by those skilled in the art at the time the invention was made, that the above difference would depend more upon engineering design considerations than any inventive concept because the overall operation would not be changed by the specific arrangement of the sensors as long as they would be in contact with the user. Therefore, it would have been obvious to one of ordinary skill in the art to modify Lichter in view of Myllymaki to have the sensors comprise first and second sets along first and second edges of the device in order to provide an additional layout of the sensors for use in different housing arrangements.

10. Claims 12,13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lichter in view of Myllymaki and in view of Righter et al (US 4,938,228).

As to claim 12, Lichter in view of Myllymaki lacks a teaching of the comparing the received data from the sensors against a reference of sensed data profiles. Righter teaches a heart rate monitor which compares received sensor data against saved sensed data (Righter see especially col 2, lines 32-60). It would have been obvious to one of ordinary skill in the art to modify Lichter in view of Myllymaki as taught by Righter in order to improve the accuracy of the determined heart rate.

As to claim 13, Lichter in view of Myllymaki lacks a teaching of selecting a set of weights to be applied to normalize sensing data received from the sensors. Righter teaches a heart rate monitor which uses selected weights to normalize data from the sensors (Righter see especially col 6, line 63 – col 7, line 10, col 12, line 49 – col 13, line 5). It would have been obvious to one of ordinary skill in the art to modify Lichter in

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view of Myllymaki as taught by Richter in order to improve the accuracy of the determined heart rate.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lichter in view of Myllymaki and in view of Matthews (US 4,867,442)

Lichter in view of Myllymaki lacks a teaching of a calibration mode wherein a user confirms a generated heart rate. Matthews teaches a heart rate monitor with a calibration mode wherein a user confirms a generated heart rate (Matthews see especially col 3, lines 5-10). It would have been obvious to one of ordinary skill in the art to modify Lichter in view of Myllymaki to add the calibration mode of Matthews in order to improve the accuracy of the determined heart rate.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip J. Sobutka whose telephone number is 703-305-4825. The examiner can normally be reached on Monday-Friday 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

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Philip Sobutka

Pjs
November 21, 2001


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